

CLAIMS

1. A spray applicator, comprising:
a gun configured to receive a liquid and atomize the liquid; and
a supply vessel coupled to the gun that supplies the liquid to the gun, the supply vessel retaining a volume of the liquid and including a level sensor responsive to the volume retained by the supply vessel.
2. The spray applicator of claim 1, wherein the level sensor further includes a sensor element that extends into the supply vessel, the sensor element being configured to detect a liquid volume by sensing a resistance property of the liquid.
3. The spray applicator of claim 1, wherein the level sensor further includes a control system coupled to the supply vessel that generates a signal when a predetermined liquid volume is retained in the supply vessel.
4. The spray applicator of claim 3, wherein the level sensor further includes an alarm device coupled to the control system to receive the signal and generate an alarm indication.
5. The spray applicator of claim 2, wherein the sensor element further comprises:
a first electrode; and
a second electrode spaced apart from the first electrode.
6. The spray applicator of claim 5, wherein the first electrode and the second electrode are positioned adjacent to a wall of the supply vessel, the first electrode and the second electrode being spaced apart from the wall of the supply vessel by an insulating layer interposed between the wall and the first and second electrodes.

7. The spray applicator of claim 5, wherein the first electrode and the second electrode are formed on opposing sides of an insulating substrate.

8. The spray applicator of claim 5, wherein the supply vessel further includes a wall that comprises one of the first electrode and the second electrode.

9. The spray applicator of claim 3, wherein the control system includes a current-sensing network coupled to a voltage source.

10. The spray applicator of claim 3, wherein the control system includes a voltage-sensing network coupled to a current source.

11. A level-sensing supply vessel for a spray applicator, comprising:
a level sensor responsive to a volume of a liquid retained by the supply vessel, the sensor including a sensor element configured to detect the volume by sensing a resistance property of the liquid.

12. The level-sensing supply vessel of claim 11, wherein the level sensor further includes a control system coupled to the supply vessel that generates a signal when a predetermined liquid volume is retained in the supply vessel.

13. The level-sensing supply vessel of claim 12, wherein the level sensor further includes an alarm device coupled to the control system to receive the signal and generate an alarm indication.

14. The level-sensing supply vessel of claim 11, wherein the sensor element further comprises:

a first electrode; and

a second electrode spaced apart from the first electrode.

15. The level-sensing supply vessel of claim 14, wherein the first electrode and the second electrode are positioned adjacent to a wall of the supply vessel, the first electrode and the second electrode being spaced apart from the wall of the supply vessel by an insulating layer interposed between the wall and the first and second electrodes.

16. The spray applicator of claim 14, wherein the first electrode and the second electrode are formed on opposing sides of an insulating substrate.

17. The spray applicator of claim 14, wherein the supply vessel further includes a wall that comprises one of the first electrode and the second electrode.

18. The spray applicator of claim 12, wherein the control system includes a current-sensing network coupled to a voltage source.

19. The spray applicator of claim 12, wherein the control system includes a voltage-sensing network coupled to a current source.

20. A method of sensing a level of a liquid retained within a storage vessel of a spray applicator, comprising:

sensing a first volume of the liquid retained within the vessel;

removing a portion of the first volume to define a second volume within the storage vessel;

determining if the second volume is less than a predetermined minimum volume;

and

generating an alarm signal if the second volume is less than the predetermined minimum volume.

21. The method of claim 20, wherein sensing a first volume of the liquid comprises determining a first resistance value of the liquid.

22. The method of claim 20, wherein determining if the second volume is less than a predetermined minimum volume further comprises:

sensing the second volume to determine a second resistance value of the liquid;
and
comparing the first resistance value to the second resistance value.

23. The method of claim 20, wherein generating an alarm signal further comprises generating an audible alarm.

24. The method of claim 20, wherein generating an alarm signal further comprises generating a visual alarm.

25. The method of claim 20, wherein removing a portion of the first volume to define a second volume further comprises expelling the portion through a spray gun coupled to the supply vessel.